



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/555,921	06/06/2000	WOLFGANG KAUFHOLD	MO-5726/LEA	9638

7590 12/16/2003

BAYER CORPORATION  
100 BAYER ROAD  
PITTSBURGH, PA 15205-9741

EXAMINER

SERGEANT, RABON A

ART UNIT	PAPER NUMBER
----------	--------------

1711

28

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/555,921

Applicant(s)

KAUFHOLD ET AL.

Examiner

Rabon Sergent

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,7,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7,10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1711

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on November 3, 2003 has been entered.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within claim 2, the language, "the reactor", lacks antecedent basis.

3. Claims 1, 2, 4, 7, 10, and 11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for products and processes wherein components (A), (B), and (C) are homogeneously premixed within a period of at most 5 seconds, does not reasonably provide enablement for products and processes wherein the homogeneous premix step has been omitted. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. Within the specification, applicants have clearly disclosed that the homogeneous premix step is an integral part of the disclosed process. Furthermore, applicants have failed to provide any guidance suggesting that this step can be omitted while still realizing the properties ascribed to the polyurethane elastomers.

Art Unit: 1711

4. Claims 1, 2, 4, 7, 10, and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner has not found support for the amended language of claim 1, "... are continuously introduced and reacted in a static mixer, said thermoplastic polyurethane elastomer being formed within said static mixer, and said process having a residence time within said static mixer of less than 5 seconds, ...". While applicants have stated at page 9 of the specification that polyaddition may occur within a static mixer and that the residence time in the static mixer is less than 5 seconds, applicants have not stated that the thermoplastic polyurethane elastomer is formed within the static mixer, wherein the forming in the static mixer has a residence time of less than 5 seconds. Polyaddition merely denotes that the reaction has begun; however, applicants' claim language suggests that complete reaction has occurred within the static mixer in a period of less than 5 seconds. The position is taken that this extrapolation is not supported by the aforementioned disclosure. This position finds support within the examples. In every example where a static mixer is used (Examples 1, 2, and 5), while premixing is performed in the static mixer, the reaction that yields the elastomer is performed within a reaction tube or an extruder.

5. Claims 1, 2, 4, 7, 10, and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants' claims

Art Unit: 1711

specify that a thermoplastic polyurethane elastomer is produced within a static mixer; however, applicants have failed to disclose how one is to prevent the static mixer from becoming blocked with the presumably viscous, formed elastomeric composition or how one is to force the presumably viscous, formed elastomeric composition through the static mixer.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 2, 4, 7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirchmeyer et al. ('252) in view of Rausch et al. ('964).

The primary reference discloses the continuous production of polyurethane elastomers, wherein the reactant components are rapidly mixed prior to reaction or at an early stage of the reaction, so as to obtain more uniform mixing and reaction. Kirchmeyer et al. disclose the use of static mixers.

8. While the primary reference fails to disclose the use of reactant streams having comparable temperatures, the use of comparable temperatures for reactant streams used for the continuous production of thermoplastic polyurethanes was a known and conventional practice at the time of invention. Rausch et al. are concerned with the production of a thermoplastic polyurethane, and the examples of Rausch et al. clearly disclose that the two reactant streams were heated to the same temperature of 140°F (60°C).

9. Therefore, in accordance with the goals, of the primary reference, of obtaining more uniform and homogeneous mixtures, the position is taken that one would have been motivated to introduce the streams for mixing at comparable temperatures (as was done in the secondary reference), so as to obtain a reactant composition having increased uniformity and increased efficiency of formulation.


10. Applicants have argued that the residence times, disclosed by Kirchmeyer et al. exceed those claimed by applicants. In response, it is noted that the residence times of the reference, referred to by applicants, are preferred times; therefore, these times are not mandated by the reference. Firstly, the position is taken that the selection of the residence time amounts to the obvious selection or manipulation of a result effective variable. Secondly, the position is further taken that the respective residence times are close enough that one would have expected the processes to yield equivalent products. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). MPEP 2144.05. Applicants have provided no showing of unexpected results with respect to the residence times.

Application/Control Number: 09/555,921

Page 6

Art Unit: 1711

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

  
Rabon Sergent  
Primary Examiner  
Art Unit 1711

R. Sergent  
December 12, 2003